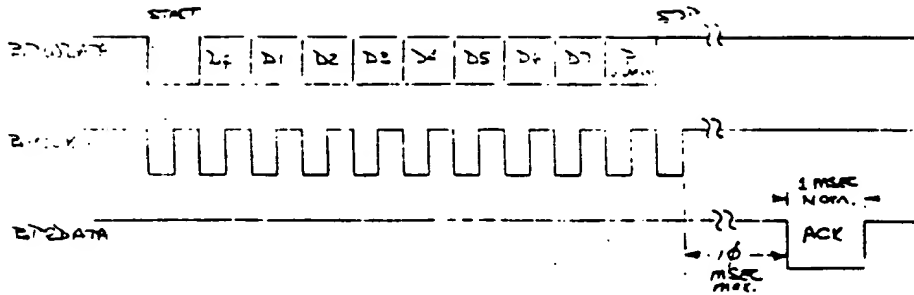
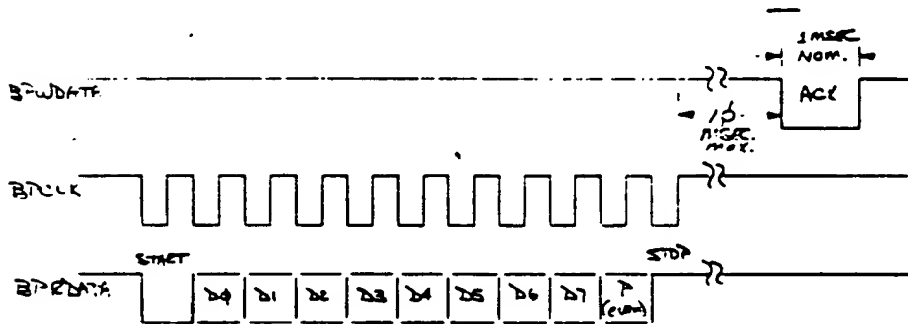


# APPENDIX B

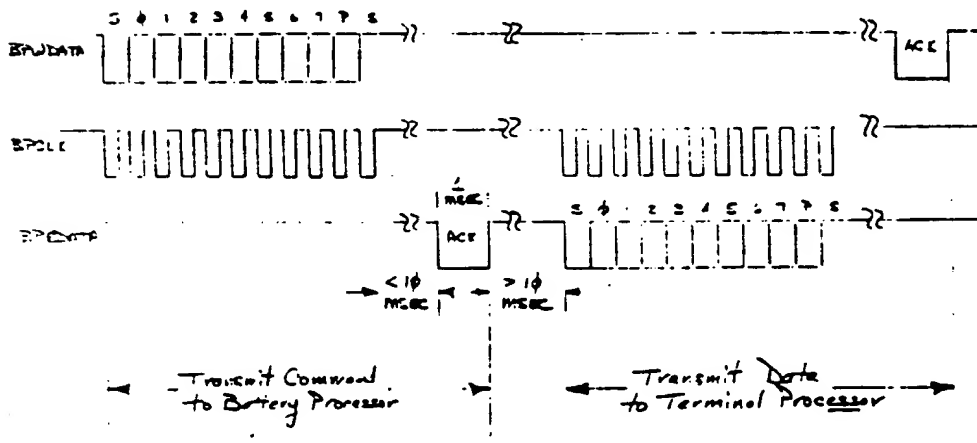
STEVEN E. KOENIG  
APPLICATION FOR PATENT "BATTERY  
CONDITIONING SYSTEM HAVING  
COMMUNICATION WITH BATTERY  
PARAMETER MEMORY MEANS IN  
CONJUNCTION WITH BATTERY  
CONDITIONING" ATTY. DOCKET 5717-Y



Terminal to Battery Processor Communication

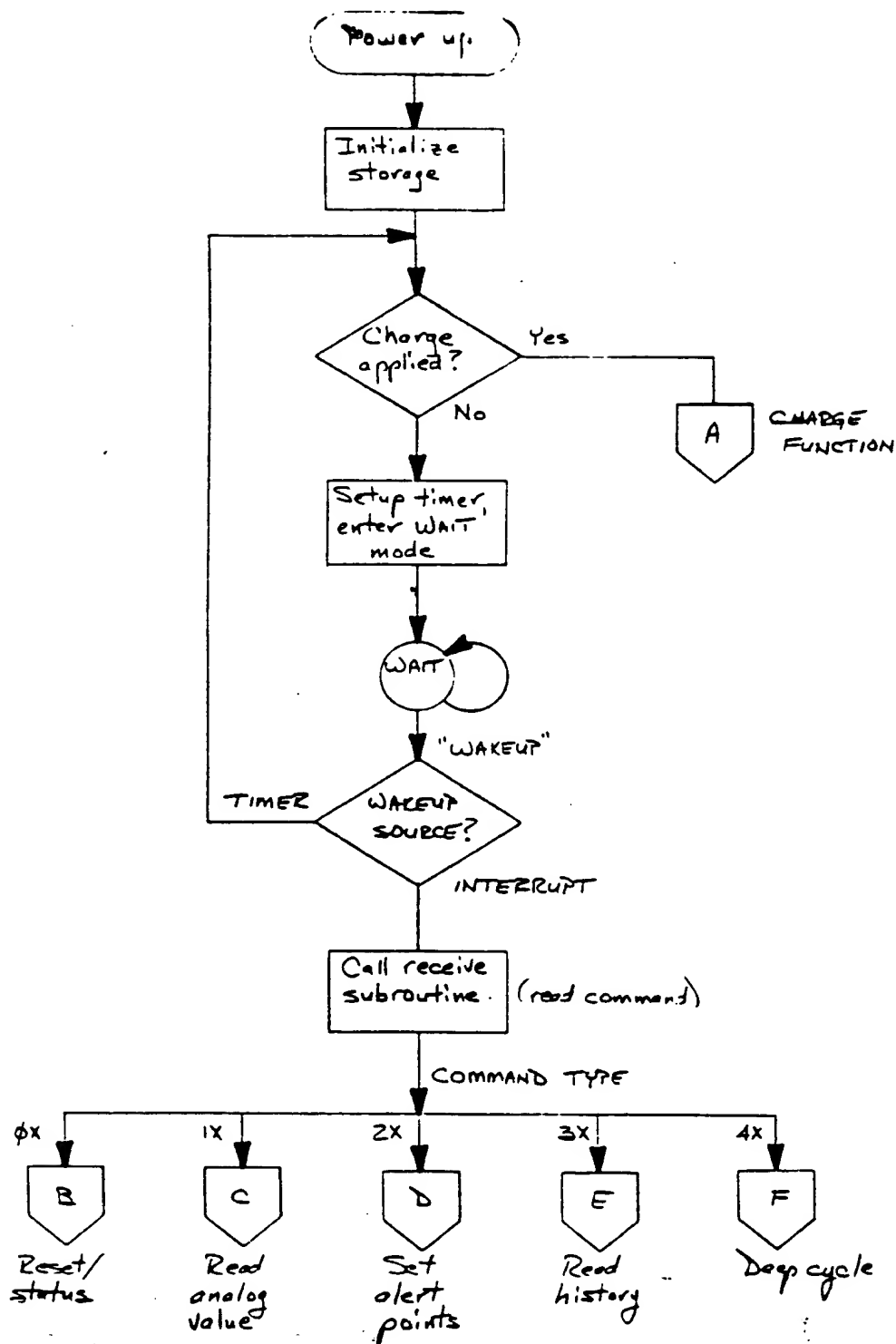


Battery Processor to Terminal Communication

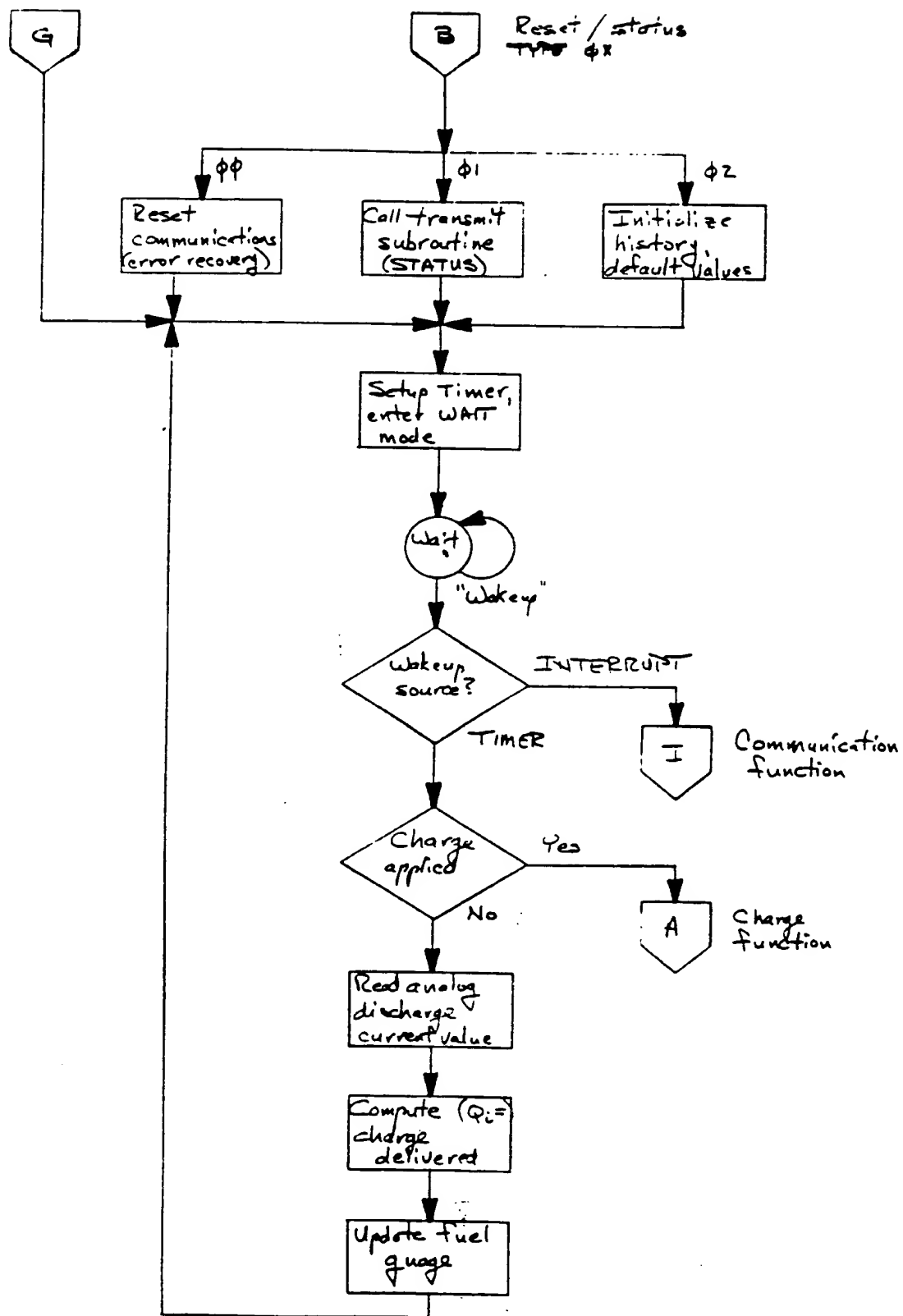


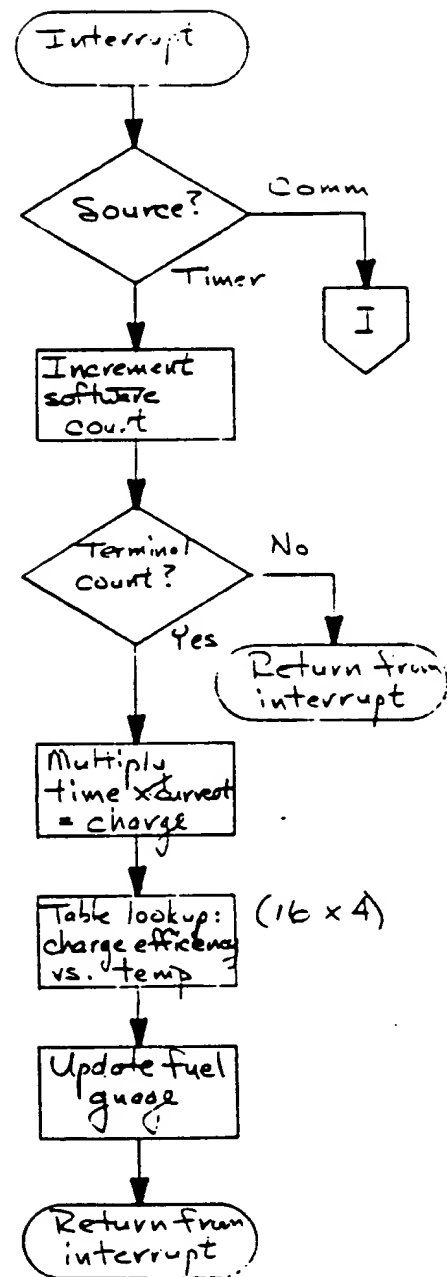
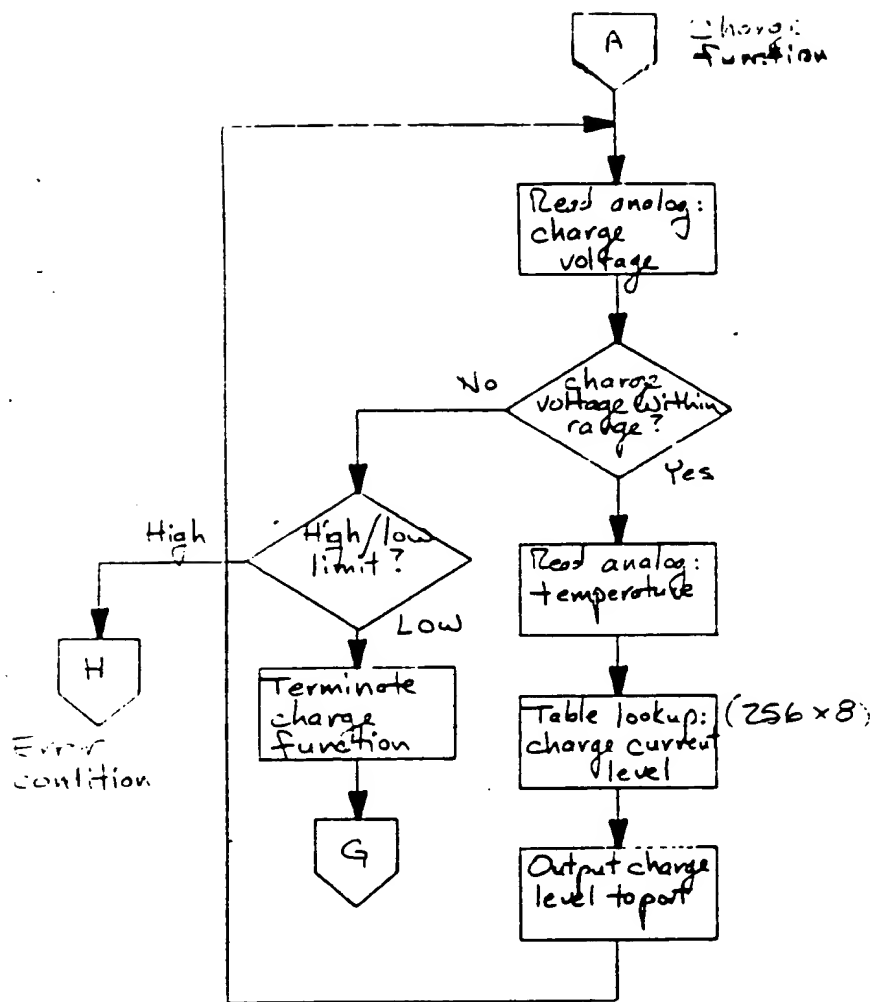
Command/Response Communication Protocol

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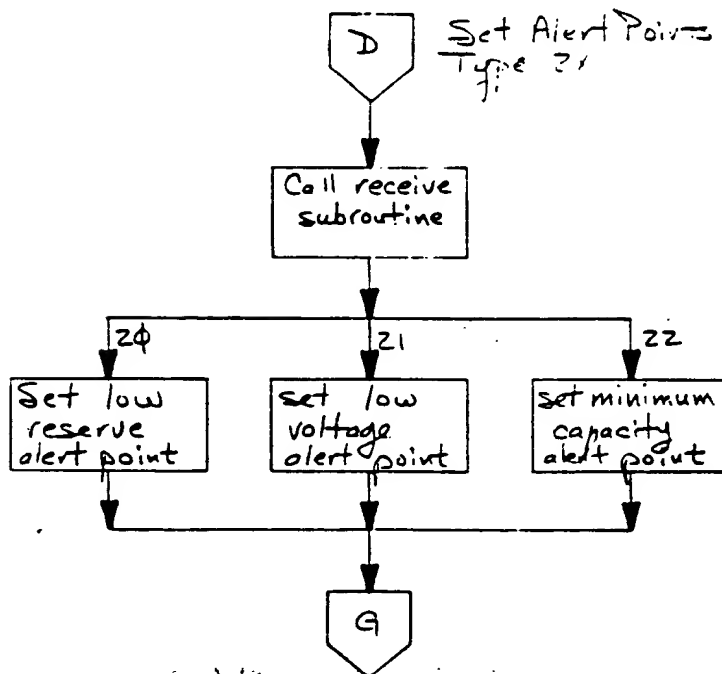
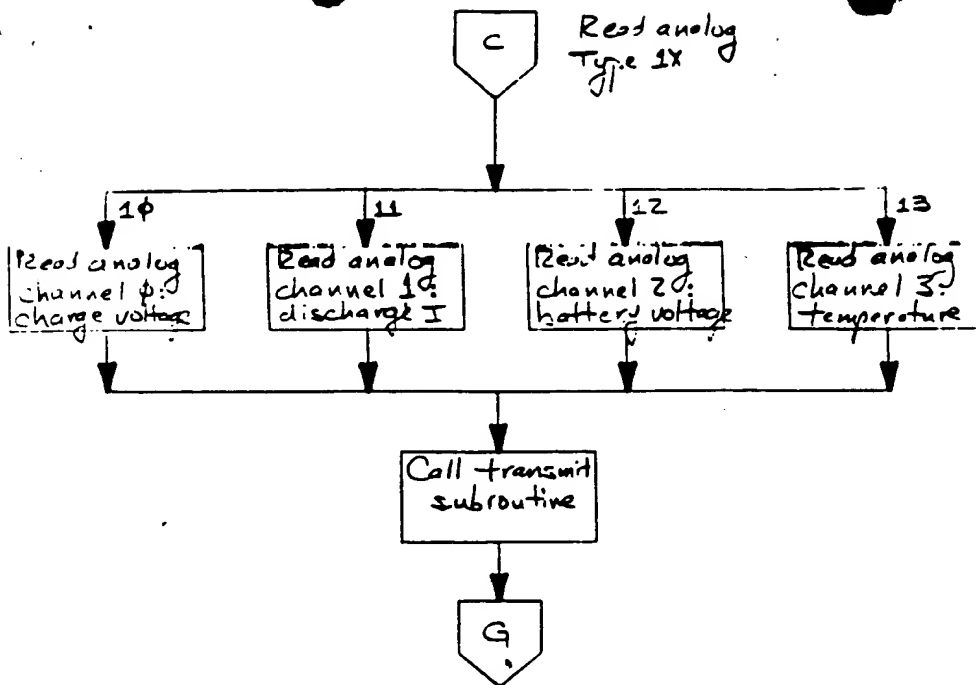
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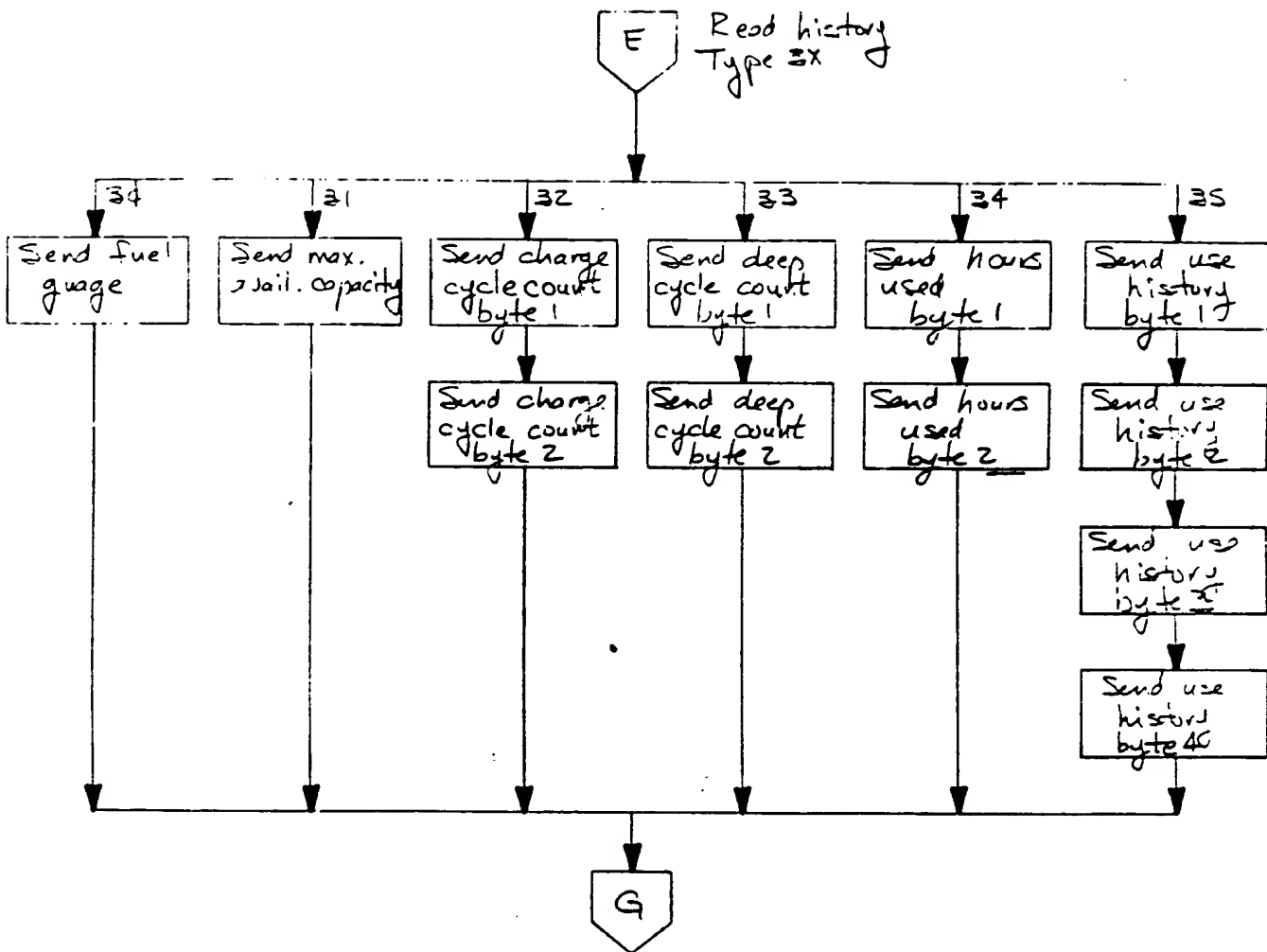


Note: Processor does not enter WAIT condition during charge.

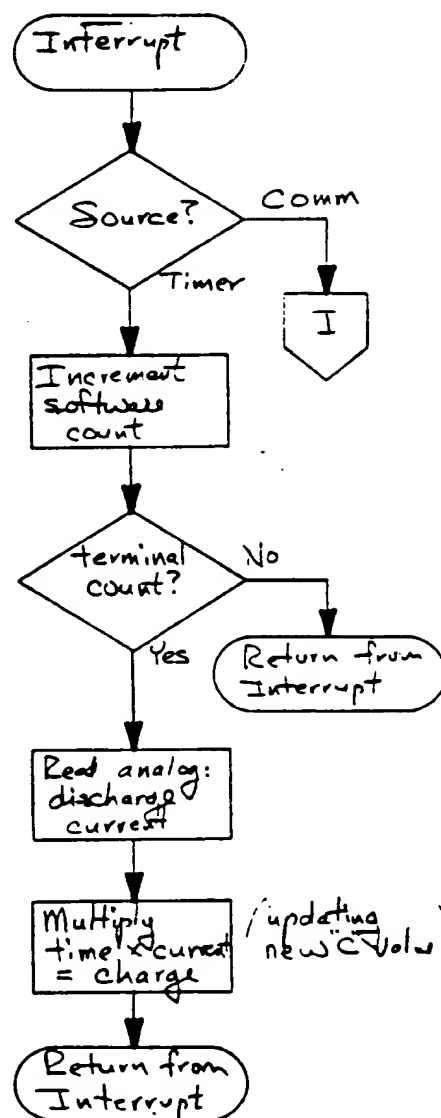
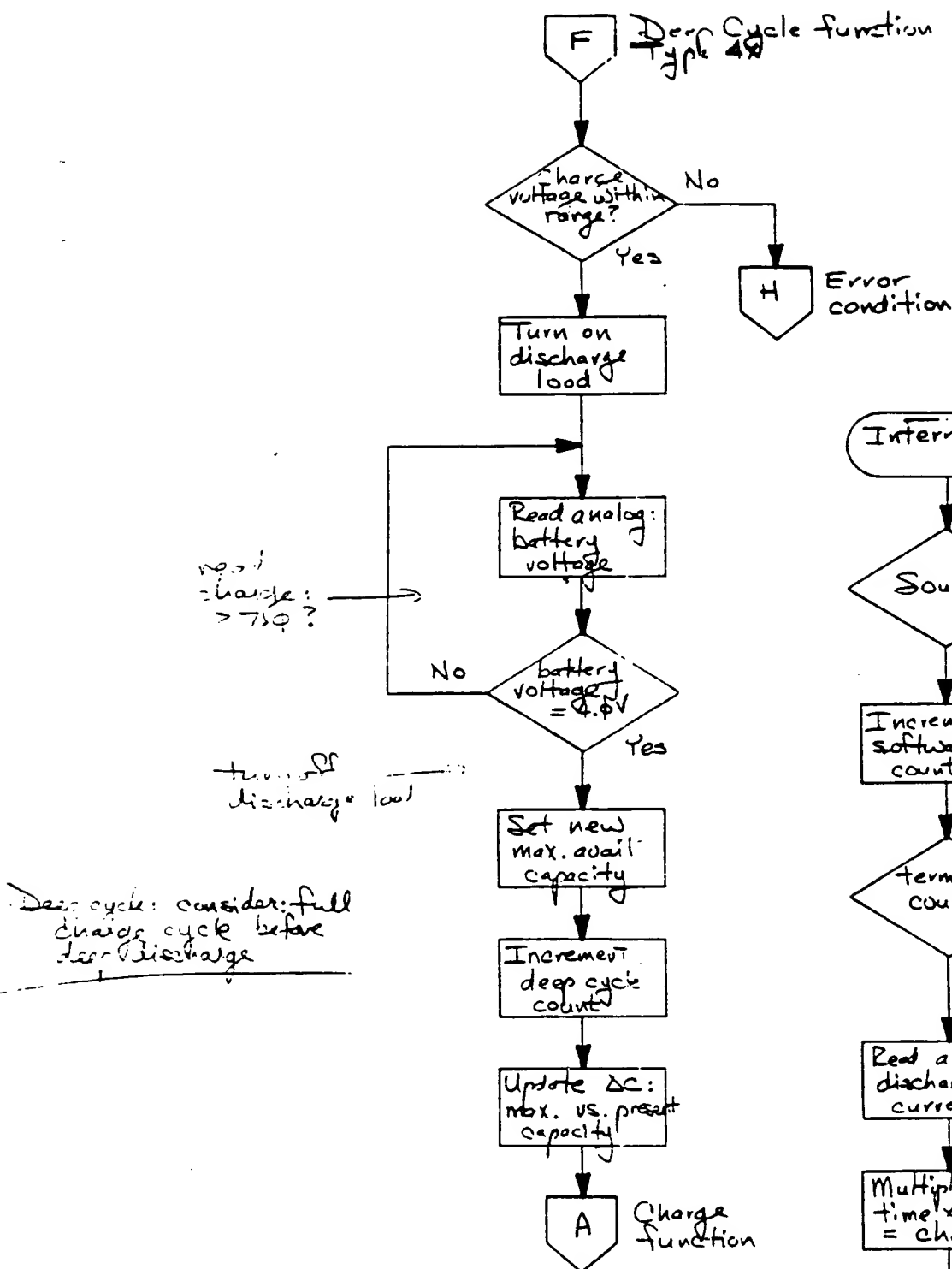
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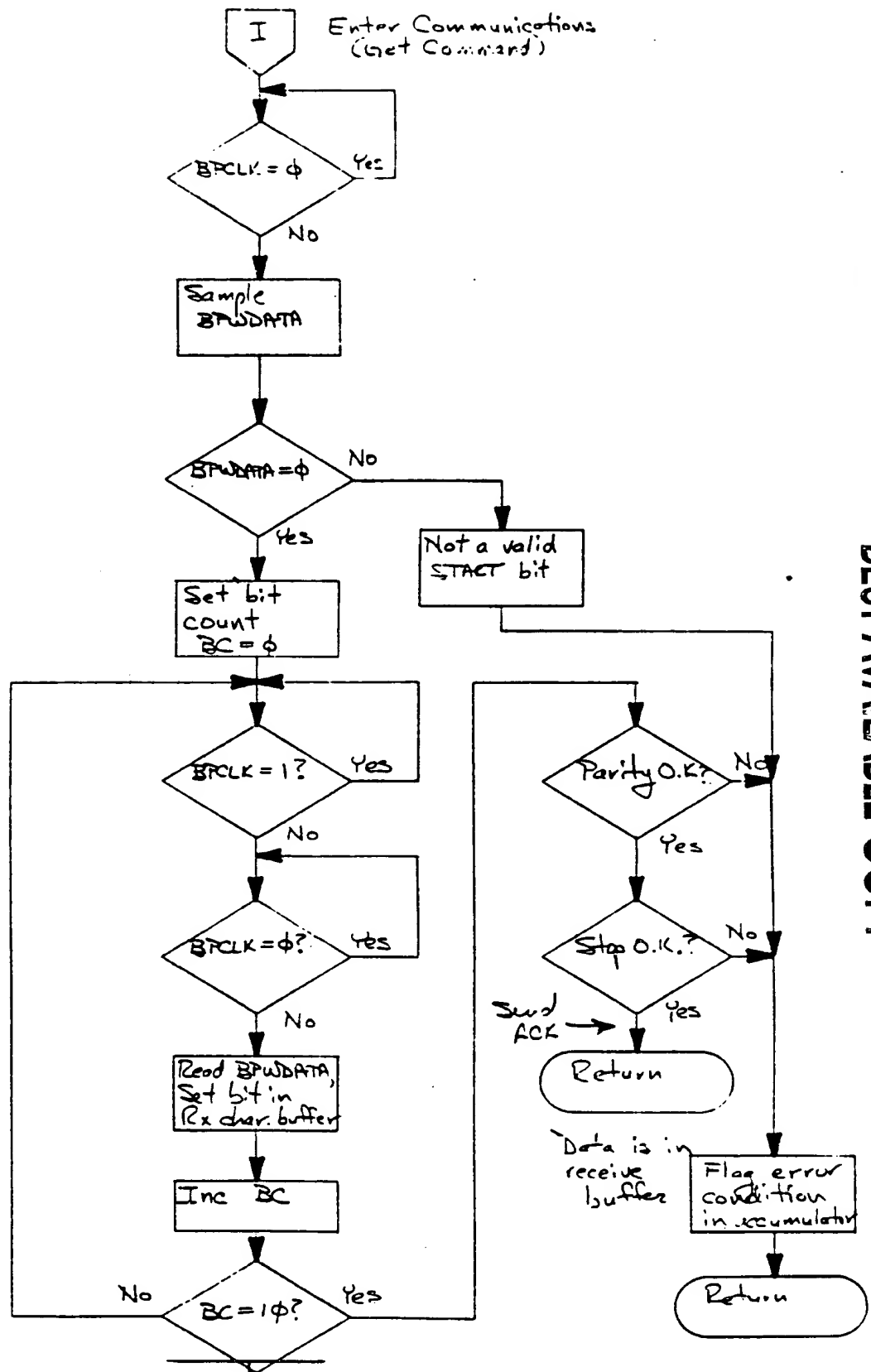
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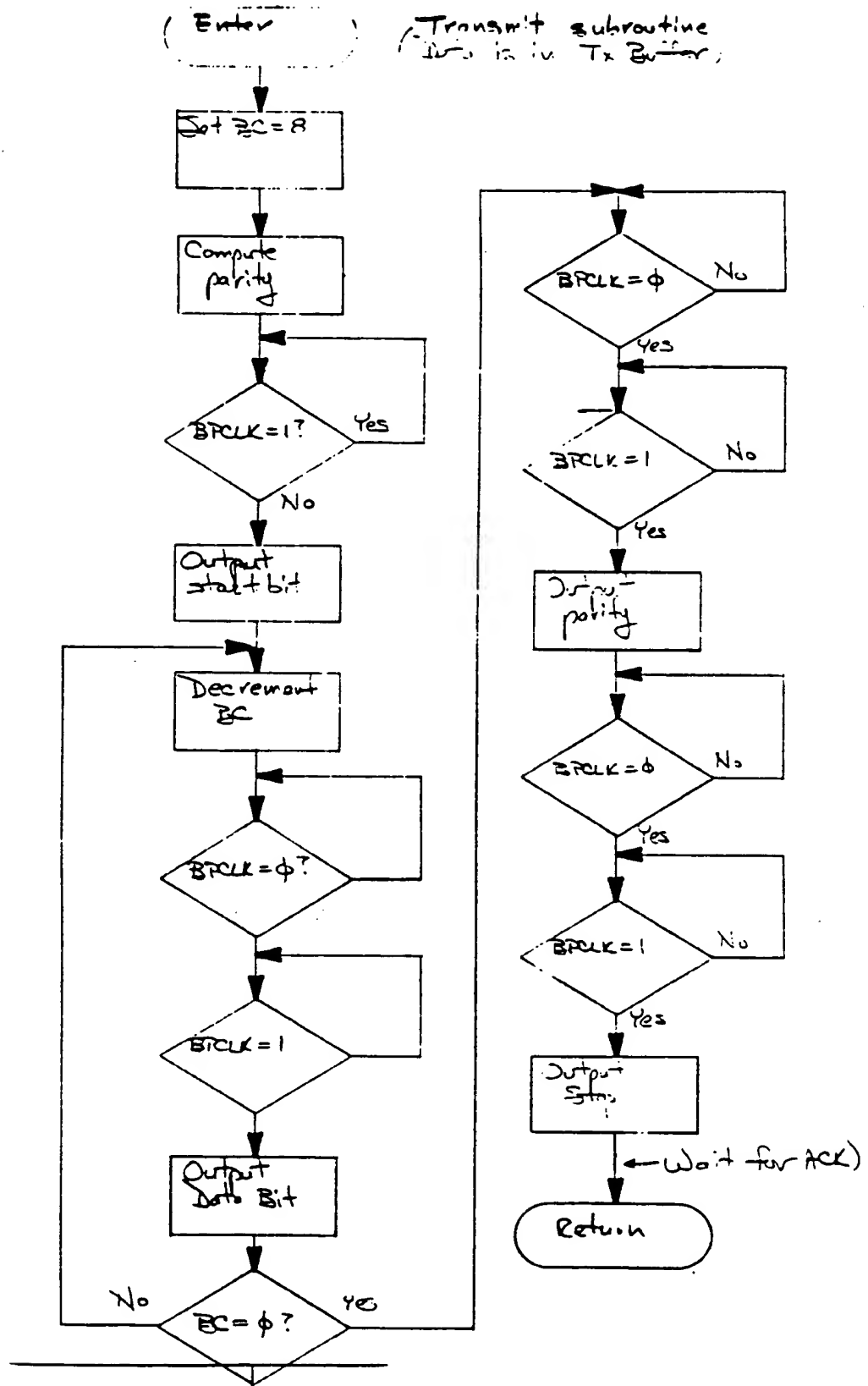
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Note: Processor does not enter WAIT condition during deep discharge







## Charge level lookup table:

Input variables:

1. Temperature
2. Charge voltage
3. Fuel gauge

1. Temperature: table increments of  $4^{\circ}\text{C} \times 16 \text{ steps} = 64^{\circ}\text{C}$ ,  $-14^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$   
temperatures below  $-14^{\circ}\text{C}$  use  $-14^{\circ}\text{C}$  value  
temperatures above  $+50^{\circ}\text{C}$  use  $+50^{\circ}\text{C}$  value

2. Charge voltage: table increments of  $1.28 \text{ volts} \times 8 \text{ steps} = 10.24 \text{ Volts}$   
 $7.0 < V_{\text{CHG}} < 17.24 \text{ V.}$

voltages below 7 volts or above 17.24 volts will cause the charge level to be turned off and an error condition to be transmitted to the terminal processor

3. Fuel gauge: 4 steps:

- 0-25%
- 25-50%
- 50-75%
- 75-100%

TABLE OUTPUT: 4 bits, binary weighted  
charge level =  $32 \text{ ma/step}$   
 $0 \leq I_{\text{CHG}} \leq 480 \text{ ma}$

TABLE SIZE:

$16 \times 8 \times 2 = 256 \text{ Bytes}$

①	②	③
Temp	Chg voltage	%C (4 nibbles)

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